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ABSTRACT OF DISCLOSURE

A host system is provided with one or more host-fabric adapters installed therein for connecting to a switched fabric of a data network. The host-fabric adapter may comprise at least one Micro-Engine (ME) arranged to establish connections and support data transfers, via a switched fabric, in response to work requests from a host system for data transfers; interface blocks arranged to interface the switched fabric and the host system, and send/receive work requests and/or data messages for data transfers, via the switched fabric, and configured to provide context information needed for said Micro-Engine (ME) to process work requests for data transfers, via the switched fabric, wherein the Micro-Engine (ME) is implemented with a pipelined instruction execution architecture to handle one or more ME instructions and/or one or more tasks in parallel in order to process data messages.